CLAIMS

1. In an electrical device having an audio interface port, a method for identifying a headset plugged into the device audio interface port, the method comprising:

supplying a test voltage to a device audio interface port;

measuring a voltage level at the device audio interface port; and,

identifying a headset type plugged into the device audio interface port in response to measuring the voltage level.

2. The method of claim 1 wherein measuring a voltage level at the device audio interface port includes comparing the measured voltage level to a threshold value; and,

wherein identifying a headset type in response to measuring the voltage level includes identifying a headset type in response to comparing the measured voltage level to a threshold value.

3. The method of claim 2 wherein identifying a headset type in response to comparing the measured voltage level to a threshold value includes:

identifying a stereo headset for a measured voltage level greater than the threshold value; and,

identifying a mono headset for a measured voltage level less than the threshold value.

4. The method of claim 2 wherein identifying a headset type in response to comparing the measured voltage level to a threshold value includes:

identifying a stereo headset for a measured voltage level less than the threshold value; and,

identifying a mono headset for a measured voltage level greater than the threshold value.

5. The method of claim 2 wherein measuring a voltage level at the device audio interface port includes:

driving a network with the test voltage and dividing the test voltage between a resistance for the network and a resistance for the headset; and,

measuring a divided test voltage at the audio interface port.

6. The method of claim 5 wherein measuring the divided test voltage at the audio interface port includes:

accepting an analog voltage;

converting the analog voltage to a digital signal; and,

interpreting the digital signal.

7. The method of claim 5 further comprising:

in response to identifying a stereo headset, supplying a stereo audio signal to the audio interface port.

8. The method of claim 5 wherein driving a network with the test voltage and dividing the test voltage between a resistance for the network and a resistance for the headset includes using the network to reduce a rate of change for the voltage at the device audio interface port.

9. The method of claim 1 further comprising:

plugging the headset into the device audio interface port; and,

detecting, in the device, the presence of the headset.

10. In an electrical device having an audio interface port, a system for identifying a headset plugged into the device audio interface port, the system comprising:

a first switch with an input connected to receive a test voltage, a control input to accept a switch control signal, and an output to supply the test voltage in response to the switch control signal;

an audio interface port to accept variable impedance headphone jacks;

a test network with a first port connected to the first switch output and a second port connected to the audio interface port, the test network to condition current to the audio interface port; and,

an identification sub-system with an input connected to the audio interface port and an output to supply the switch control signal, the identification sub-system determining voltage levels at the

audio interface port and comparing voltage levels with a first predetermined threshold value to identify a headset type connected to the audio interface port.

11. The system of claim 10 wherein the identification sub-system identifies a stereo headset in response to determining a voltage level above the first threshold value and a mono headset in response to determining a voltage level below the first threshold value.

12. The system of claim 10 wherein the identification sub-system identifies a stereo headset in response to determining a voltage level below the first threshold value and a mono headset in response to determining a voltage level above the first threshold value.

13. The system of claim 10 further comprising:

a test voltage source with an output connected to the first switch input; and,

wherein the identification sub-system includes:

a voltage determination sub-system with an input connected to the audio interface port and an output to supply a determination signal responsive to the voltage at the audio interface port; and,

a controller having an input connected to the voltage determination sub-system output and an output to supply the switch control signal, the controller comparing determination signals with a second predetermined threshold value to identify a headset type connected to the audio interface port.

14. The system of claim 13 wherein the controller identifies a stereo headset connected to the audio interface port in response to accepting a determination signal with a value above the second predetermined threshold value and a mono headset in response to accepting a determination signal with a value below the second threshold value.

15. The system of claim 13 wherein the controller identifies a stereo headset connected to the audio interface port in response to accepting a determination signal with a value below the second predetermined threshold value and a mono headset in response to accepting a determination signal with a value above the second threshold value.

16. The system of claim 13 further comprising a microcontroller logic unit with an input and a first output connected to the test network first port; and,

wherein the controller, the test voltage source, and the first switch are included in the microcontroller logic unit, the controller input and the voltage determination sub-system output are connected to the logic unit input, and the first switch output is connected to the logic unit first output.

17. The system of claim 16 wherein the voltage determination sub-system is an analog-to-digital converter (ADC) with

an input connected to the audio interface port and an output connected to the logic unit input.

18. The system of claim 16 wherein the test network includes a first resistor with a first end connected to the logic unit first output and a second end connected to the audio interface port.

19. The system of claim 18 wherein the test network further includes a first capacitor with a first end connected to the first resistor second end and a second end connected to ground.

20. The system of claim 19 wherein the test network further includes a second switch with a first port connected to the first capacitor second end, a second port connected to ground, and a control input to accept first control signals, the second switch to close in response to accepting a first test control signal; and,

wherein the logic unit includes a second output to supply first control signals, the output to supply the first test control signal in response to the logic unit supplying a test voltage at the first output.

21. The system of claim 20 wherein the second switch is a transistor with a first terminal connected to the first capacitor second end, a second terminal connected to ground, and a control terminal connected to the logic unit second output, the transistor being enabled in response to accepting the first test control signal.

22. The system of claim 21 wherein the transistor is selected from the group including field effect transistors (FETs) and bi-polar junction transistors (BJTs).

23. The system of claim 19 wherein the test network further includes a second resistor with a first end connected to the first resistor second end and a second end connected to the audio interface port.

24. The system of claim 18 further comprising:

a digital-to-analog converter (DAC) with an input to accept a stereo control signal and an output connected to the audio interface port, the output to supply stereo signals in response to accepting the stereo control signal; and,

wherein the logic unit includes a third output connected to the DAC input, the third output to supply the stereo control signal in response to the logic unit identifying a stereo headset on the audio interface port.

25. The system of claim 24 wherein the test network further includes:

a second capacitor with a first end connected to the first resistor second end and a second end; and,

a third switch with a first port connected to the second capacitor second end, a second port connected to ground, and a control input to accept second control signals, the third switch closing in response to accepting a second test

control signal and opening in response to accepting a termination second control signal; and,

wherein the logic unit includes a fourth output connected to the third switch control input, the fourth output to supply a second test control signal in response to the logic unit supplying a test voltage at the first output and the termination second control signal in response to the logic unit supplying the stereo control signal.

26. The system of claim 24 further comprising:

a blocking network with a first port connected to the DAC output and a second port connected to the audio interface port.

27. The system of claim 18 further comprising:

the audio interface port with at least four lines; and,

the headset plugged into the audio interface port.

28. In an electrical device having an audio interface port, a system for identifying a headset plugged into the device audio interface port, the system comprising:

the audio interface port;

a headset plugged into the audio interface port;

an analog-to-digital converter (ADC) with an input connected to the audio interface port and an output to supply a determination signal responsive to a voltage level on the audio interface port;

a microcontroller logic unit with: a first output to supply a test voltage signal; an input to accept the determination signal, the

logic unit to compare determination signal values with a predetermined threshold value to identify a headset type connected to the audio interface port; and a second output to supply a stereo control signal in response to identifying a stereo headset;

a test network including: a first resistor with a first end connected to the logic unit first output and a second end; a capacitor with a first end connected to the first resistor second end and a second end connected to ground; and, a second resistor with a first end connected to the first resistor second end and a second end connected to the audio interface port;

a digital-to-analog converter (DAC) with an input connected to the logic unit second output and an output to supply stereo audio signals in response to the DAC accepting a stereo control signal; and,

a blocking network including: a capacitor with a first end connected to the DAC output and a second end; and, a resistor with a first end connected to the capacitor second end and a second end connected to the audio interface port.